Attachments

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PREVIOUS EJ STAKEHOLDER COMMENT LETTER

Pamela Creedon
Executive Officer
Central Valley Regional Water Quality Control Board
11020 Sun Center Dr. #200,
Rancho Cordova, CA 95670

David Cory, Chair
Central Valley Salinity Coalition
c/o Central Valley Regional Water Quality Control Board
11020 Sun Center Dr. #200,
Rancho Cordova, CA 9567

October 3, 2016

Re: Comments on Revised CV-SALTS Policy documents

Dear Ms. Creedon and Mr. Cory,

We are writing to express our continued concerns regarding both the inadequacy of the path forward the policy documents provide, as well as the overarching process of creating this SNMP. We participated for many years in the CV-SALTS stakeholder meetings with the goal of developing a collaborative SNMP and Basin Plan amendment framework that would meet the shared goals of guaranteeing safe drinking water for all users, achieving a nitrate balance and ensuring long-term restoration of our aquifers, all while supporting a pathway to compliance for agriculture and other nitrate dischargers. Unfortunately, the policies as written will not achieve these goals. Accordingly, we submit these comments in addition to the comments we've submitted previously, to highlight components of the policies that undermine the stated goals of the SNMP. We will continue to provide comments and engage as necessary in our continued commitment to the overall goals of the program despite our growing concern that the current process will not yield the results necessary to protect groundwater and beneficial uses.

We incorporate the comments we submitted on several of the policy documents on August 1 and want add additional comments in response to the revised Policy Documents recently released to CV Salts stakeholders. We will provide further comments on Draft Policies, including the Draft Policy on Maximum Benefit Analysis and Alternative Compliance Projects.

Nitrates Permitting Policy

- **10 mg/L as a trigger limit**: The use of 10 mg/L, which is the water quality objective, as the trigger limit for how much assimilative capacity may be granted is not appropriate if the goals of this SNMP is to actually ensure adequate management of nitrates so as to prevent negative impacts to residents of the Central Valley now and the future. The Drinking Water regulatory program has stated that using 7.5 mg/L is an appropriate buffer to prevent exceedances and thus setting CV-SALTS trigger limit at 7.5 mg/L would be consistent with the agency. Allocating assimilative capacity up to the water quality objective does not allow any room for error or accidental discharge. Nitrates are an acute contaminant, which means even a single instance of consuming nitrate-laden water can result in serious health concerns especially for vulnerable populations such as pregnant women and infants. Additionally, public water systems have to treat water once it reaches 10 mg/L, thus allowing assimilative capacity to 10 mg/L will result in additional costs to water systems providing drinking water. Furthermore, many communities throughout the Central Valley depend upon private wells which do not require any sort of testing, thus creating large potentially vulnerable populations. Many WDRs set trigger limits below the MCL in order to account for such concerns.[1]

- **Relevant groundwater for determining assimilative capacity:**
    - **Consistency of vertical measurement:** The document is extremely inconsistent and unclear as to how assimilative capacity will be determined. There are several potential levels of the groundwater to which a discharger can pick and choose from in determining whether there is assimilative capacity. This is unacceptable. Such inconsistency allows for gamesmanship and will result in localized impacts and incompatible management of the groundwater. Dischargers will choose the level that is most advantageous to their interests, regardless of whether or not it is the best characterization of water quality in the level used by other beneficial users.
    - **What is "shallow groundwater":** It is unclear what "shallow groundwater" actually looks like. What are the upper and lower limits of the shallow groundwater? Does this include shallow domestic wells?
    - **The use of the production zone is not appropriate:** We reiterate that the use of the production zone for the purposes of assessing assimilative capacity is not appropriate. The weighted average of the water quality across the production zone by definition weighs toward the deeper water, thus increasing isolation and vulnerability of shallow area (since it's weighted based on the amount of water, and the amount of water is greater in the lower zone).
    - **Horizontal determination**: We continue to stand firm that determining assimilative capacity across an entire management zone (which can be as large as an entire basin!) is

[1] Santa Ana Region Basin Plan, http://waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/2016/Chapter_4_Feb_2016.pdf (p. 4-54). Within nearly all of the management zones within the Santa ana Region, the water quality objective is set far below the MCL. To allow a discharge greater than that zone's objective, there must be a finding of maximum benefit and thus antidegradation policies apply.

inappropriate because it will lead to localized hot spots and is inconsistent with the goals of CV-SALTS. It is most appropriate to determine assimilative capacity within the relevant groundwater near the discharge. Assimilative capacity should thus be determined by looking at the groundwater quality within a mile and a half radius of impacted wells. This is consistent with the definition of zone of influence found within the UC Davis Nitrate Report.

Management Zones

- **Scope & size**: Management zones should not be able to span the size of a basin or subbasin. Allowing these zones to be that large may be too unwieldy to manage. Furthermore, since management zones are proposed for everything from determining assimilative capacity to locating mitigation projects, this wide of a geographic scope is likely to lead to localized hot spots, regardless of other efforts to prevent them.
- **Inclusion of all relevant parties**: Due to the fact this is still a voluntary process we're concerned that some impacted residents will be left out of a source of alternative drinking water supply. The policy documents have not yet defined how it will be determined that a resident is impacted by a particular discharger. The policy document states "intended... to facilitate the assurance of safe drinking water for all residents in the zone adversely affected by the dischargers participating in the MZ and that are within the zone boundary." It is unclear how the management zone boundaries will be determined. Based on this ambiguity it seems likely that boundaries could be drawn to exclude impacted or potentially impacted communities. Furthermore, if there is a discharger located within the boundaries of the management zone - but not participating in a management zone - there will be a white, or unprotected area. There must be some means to assure that any communities nearby that area of discharge are not unfairly excluded from alternative drinking water sources when management zone participants may have also contributed.
- **Governance:** In previous CV-SALTS documents more discussion has gone into how these management zones will be governed, however there is no such discussion found within this policy document. Previous discussions have laid out key priorities and responsibilities for management zones, including: organization, outreach plan, dispute resolution, funding commitments, legal commitments, and a budget plan. As we have stated in past comments, the organization structure needs to include representatives of impacted communities as well as identification of nearby disadvantaged communities and the outreach plan must include a robust plan for how to engage all impacted and future impacted residents.

Offsets Policy

- **Offsets versus mitigation projects:** We continue to be concerned about the conflation of offsets and mitigation projects. Many of the examples offered as offsets are in fact mitigation projects. The distinction is important in regards to when each is appropriate. We reiterate that offsets can

be available as a means for allocating assimilative capacity and mitigation projects may be available as conditions for an exception or permitting of a discharge.

- **Offsets** by definition do not result in degradation to groundwater as the discharger is offsetting the amount they would have degraded the water by reducing or eliminating the loading within the same zone of influence as the discharge. Thus, an offset is not appropriate to be a part of the exceptions policy, as an exception is only for discharges where the discharge is above the MCL and there is no assimilative capacity available. Offsets may be used to meet discharge requirements.
- **Mitigation projects**, on the other hand, are aimed at mitigating the impacts of that particular discharge. So this would include projects such as implementing practices elsewhere to reduce that particular discharge's concentration, reducing the load over time through maintenance operations throughout the life of the discharge, or by rectifying the impacts the discharge has upon communities. Mitigation projects should be required as a condition of an exception since it can help reduce the impact the discharge which will result in pollution has on the groundwater.

- **Replacement water supplies** (including emergency water supplies and treatment) are aspects discussed for inclusion in an Early Action Plan. These mitigation projects should remain within the Early Action Plan and mitigation projects which may be proposed as a condition to an exception should focus on reducing the impacts to the groundwater.

Exceptions Policy

- By allowing dischargers to obtain an exception despite the fact they could feasibly comply with the discharge requirements is inconsistent with the eventual goal of basin restoration. Even if compliance with requirements does not result in noticeable improvements to water quality in the near future, if it is feasible to comply and meet water quality objectives, dischargers should do so. Exceptions should only be acceptable for situations where it is infeasible for a discharger to otherwise be in compliance.

Sincerely,

Phoebe Seaton
Co-Director and Attorney at Law
Leadership Counsel for Justice and Accountability

Laurel Firestone
Co-Executive Director and Attorney at Law
Community Water Center

Jennifer Clary
Water Policy Analyst
Clean Water Fund

Policy No. X: Nitrate Permitting Strategy

1.0 Regulatory Basis for Nitrate Permitting Strategy for Discharges to Groundwater

The Salt and Nitrate Management Plan (SNMP) sets forth several different approaches for managing salts and nitrates throughout the Central Valley. For dischargers regulated by the Central Valley Water Board, these management efforts must ultimately be implemented in permits issued to dischargers. Permits issued by the Central Valley Water Board are referred to as waste discharge requirements (WDRs), or Conditional Waivers from waste discharge requirements (Conditional Waivers).[2] WDRs must implement relevant provisions in the Basin Plans, and Conditional Waivers must be consistent with the Basin Plans. As discussed previously in Section X, the Basin Plans identify beneficial uses for designated waterbodies, establish water quality objectives that *"will ensure reasonable protection of beneficial uses and the prevention of nuisance,* and specify a program of implementation."[3] Many Central Valley groundwater basins and sub-basins are designated with the municipal and domestic water supply (MUN) beneficial use, which is defined to mean *"uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply."*[4] The MUN designations for specified groundwater basins are identified in the Tulare Lake Basin Plan, and generally designated for all groundwater basins in the Sacramento River and San Joaquin River Basin Plan.

Along with the MUN beneficial use designation, the Basin Plans include the following water quality objective to protect drinking water:

> *"At a minimum, waters designated for domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title-22 of the California Code of Regulations which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals)..."*[5]

For waterbodies designated MUN, the Maximum Contaminant Level for nitrate is 10 mg/L as nitrogen.[6]

Thus, with respect to nitrate (under the Basin Plans as they currently exist), WDRs and Conditional Waivers must ensure that discharges authorized by the given WDR/Conditional Waiver meet the water quality objective in the discharge, or ensure that the receiving water will meet the water quality objective. In some areas of the Central Valley, and for some types of dischargers, the traditional permitting approach for nitrates may not be feasible, reasonable or practicable. The SNMP nitrate

[2] CWC §13263 & 13269

[3] CWC §13241

[4] Basin Plan, pg. II-1

[5] Water Quality Control Plan (Basin Plan) for the Sacramento River Basin and the San Joaquin River Basin – 4th Ed., pg. III-10.0 and Water Quality Control Plan for the Tulare Lake Basin - 2nd Ed., pg. III-7.

[6] 22 CCR §64431(a); see Table 64431-A: Maximum Contaminant Levels for Inorganic Chemicals. Prior to January 1, 2016 the MCL was expressed as 45 mg/L (as NO_3) which is equivalent to 10 mg/L Nitrate as Nitrogen.

permitting strategy sets forth recommendations with respect to permitting nitrate discharges in WDRs and Conditional Waivers under the traditional permitting approach as well as providing for alternative permitting approaches.

In either case, the Central Valley Water Board must adopt permits that implement and are consistent with the Basin Plans, which includes consideration of several recent statewide policies. There is also a need to consider the reality of existing water quality conditions in order to better understand how to meet long-term restoration goals. Relevant statewide policies are summarized below. Existing water quality conditions are described in detail in Sections XX.

1.1 Statewide Nitrate Policies

In 2013, the State Water Resources Control Board (State Water Board) reaffirmed the importance of developing appropriate WDRs to manage nitrate discharges:

> *"The Water Boards will evaluate all existing Waste Discharge Requirements to determine whether existing regulatory permitting is sufficiently protective of groundwater quality at these sites. The Water Boards will use the findings to improve permitting activities related to nitrate."*[7]

In 2012, the state legislature approved Assembly Bill 685 which amended the California Water Code to declare that:

> *"…every human being has the right to safe, clean, affordable and accessible water adequate for human consumption, cooking and sanitary purposes. All relevant state agencies, including the Department of Water Resources, the State Water Resources Control Board, and the State Department of Public Health, shall consider this state policy when revising, adopting or establishing policies, regulations, and grant criteria when these policies, regulations and criteria are pertinent to the uses of water described in this section."*[8]

To ensure statewide implementation and consideration of the Human Right to Water, the State Water Board in February of 2016 adopted the Human Right to Water as a Core Value and Directing Its Implementation in Water Board Programs and Activities (Resolution 2016-0010). Among other things, Resolution 2016-0010 finds that:

> "*When regulating discharges that could threaten human health by causing or contributing to pollution or contamination of drinking water sources, the Water Boards may consider all solutions for ensuring safe drinking water, including providing replacement water as an interim solution while long-term water quality solutions are developed."*

The Central Valley Water Board recently followed suit and adopted Resolution 2016-0018,[9] similarly directing implementation of the Human R

[7] State Water Resources Control Board. Report to the Legislature: Recommendations for Addressing Nitrate in Groundwater (February, 2013). See recommendation #15 at page 43 of the report.

[8] Assembly Bill No. 685 added §106.3 to the California Water Code. Signed by Gov. Brown on September 25, 2012.

[9] Central Valley Water Board Resolution, adopted April 21, 2016

ight to Water in its programs and activities.

1.2 State's Antidegradation Policy & Allocation of Assimilative Capacity

When water quality in the groundwater basin is better than water quality objective specified in the Basin Plan, then the state's antidegradation policy[10] requires the Central Valley Water Board to regulate in a manner designed to maintain the highest quality water that is consistent with the maximum benefit of the people of the state and allows for all designated beneficial uses to continue~~reasonable~~.[11] Therefore, when the nitrate concentration in the receiving water is less than 10 mg/L, the Central Valley Water Board shall ~~'s preferred permitting strategy will be to~~ establish WDRs that preserve high quality water unless i~~f~~t finds that lowering water quality is consistent with the state's antidegradation policy.

The state antidegradation policy sets forth the specific conditions that must be met and demonstrations that must be made before the Central Valley Water Board can allow a discharge (or discharges) to lower existing water quality:

> *"1) Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.*
>
> *2) Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."*[12]

1.3 SNMP Recommended Guidance to Evaluate Consistency with Anti-degradation Requirements

Assimilative capacity exists where the Board determines that current water quality is better than prescribed water quality objectives for the most sensitive beneficial use(s) within the receiving water. directly impacted by the discharge. The amount of assimilative capacity, if any, varies depending on the individual characteristics of the waterbody in question.

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When specific conditions noted above are met, the Central Valley Water Board can make an allocation of assimilative capacity and allow a discharge (or discharges) to lower existing water quality. The Central Valley Water Board should not ~~is not required to~~ allocate all of the estimated assimilative capacity

[10] State Board Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality Waters of California

[11] SWRCB. Statement of Policy with Respect to Maintaining High Quality of Waters in California. Res. No. 68-16 (Oct. 28, 1968)

[12] State Water Board. Statement of Policy with Respect to Maintaining High Quality of Waters in California. Res. No. 68-16 (Oct. 28, 1968).

available and, for this reason, the SNMP establishes triggers to maintain an appropriate safety factor to ensure that high quality receiving waters do not exceed the water quality objective for nitrate. Where there is insufficient data to determine current water quality, the Central Valley Water Board will presume there is no available assimilative capacity until sufficient data becomes available to prove otherwise.

To determine that the allocation of assimilative capacity "will not result in water quality less than that prescribed in the policies," the Central Valley Water Board will ~~generally~~ require dischargers to demonstrate that the permitted discharge(s) will not cause the ~~average~~ nitrate concentration in the receiving water~~relevant groundwater basin or sub-basin~~ to exceed 7.5~~10~~ mg/L. The level of demonstration needed here will vary based on a number of different factors. For example, for a discharge from a single facility (often referred to as a point source discharger), the demonstration may be relatively simple if the discharger is seeking to use assimilative capacity available as determined from looking at first encountered groundwater and the discharger has the necessary data and information to show that the discharge will not cause first encountered groundwater to exceed 7.5 mg/L-N ~~the water quality objective 10 mg/L N~~ over a 20 year planning horizon. At the other end of the scale, multiple dischargers seeking to show assimilative capacity available in the receiving water ~~production zone over a defined management zone area~~ will likely need more extensive data and information, and/or modeling, to make the demonstration that 7.5 ~~10~~ mg/L will not be exceeded within a defined time frame.

Further, the Central Valley Water Board will require dischargers to demonstrate that the permitted discharge(s) will not cause the average nitrate concentration at existing or planned wells to exceed ~~to exceed 10 mg/L, or~~ 7.5 mg/L~~the expressed trigger value~~. ~~For permitted discharges that are likely to lower water quality, the Central Valley Water Board will presume that present and probable future beneficial uses will not be unreasonably affected if the discharge(s) consumes less than 10% of the available assimilative capacity by itself and not more than 20% of the available assimilative capacity in combination with other authorized discharges. This approach is similar to the recommendations for certain groundwater recharge projects in the Recycled Water Policy.~~[13]

If a~~n individual~~ discharge(s) is likely to consume ~~more than 10% of the~~ available assimilative capacity~~, or a combination of discharges to the same groundwater basin or sub-basin is likely to consume more than 20% of the available assimilative capacity,~~ then the discharger(s) must demonstrate that allowing lower water quality will not detrimentally~~unreasonably~~ affect others. The identification of others will depend on the how the discharger(s) seek to determine available assimilative capacity. For example, if an individual discharger seeks to utilize available assimilative capacity in first encountered groundwater, then "others" would be those down-gradient in the relative immediate surrounding area. ~~In comparison, if multiple dischargers seek to use available assimilative capacity over a Management Zone area, then others would be those users within the Management Zone, and down-gradient of the Management Zone.~~

Next, to permit the use of assimilative capacity, the Central Valley Water Board is required to find that the discharger, or dischargers, are implementing "best practicable treatment or control necessary to assure that a pollution or nuisance will not occur." To determine if BPTC is being implemented, the SNMP recommends that the Central Valley Water Board look at whether BMPs or BPTC (at the

[13] ~~State Water Board. Policy for Water Quality Control for Recycled Water; Res. No. 2009-0011 (Feb. 3, 2009)~~

discharge) can assure that nitrate concentrations in the receiving water ~~at drinking water wells down-gradient~~ of the discharge will remain below 7.5~~10~~ mg/L for the defined planning horizon (i.e., 20 years). To evaluate if BPTC is being implemented, the SNMP recommends that the complete antidegradation analysis prepared by the discharger(s) include an evaluation of alternatives, which considers socioeconomic impacts of different control/treatment measures, and if different control/treatment measures are reasonable, practicable, and/or feasible.

If even with BPTC the discharge will result in in pollution or nuisance~~not~~, then the SNMP recommends that the Central Valley Water Board next consider whether offsets or mitigation projects ~~mitigation strategies~~ applied at any other point to ensure achievement of best water quality since 1968 and there are no localized impacts.~~between the discharge and all affected down-gradient water users (e.g., well-head treatment or alternative water supply, etc.) can better assure safe drinking water to those users. In making such a determination, the Regional Board shall not allow the discharge to cause any localized impacts and the offsets or mitigation projects shall have the goal of achieving highest quality water since 1968. To evaluate if BPTC is being implemented, the SNMP recommends that the complete antidegradation analysis prepared by the discharger(s) include an evaluation of alternatives, which considers socioeconomic impacts of different control/treatment measures, and if different control/treatment measures are reasonable, practicable, and/or feasible.~~

After, and in conjunction with evaluating BPTC, the Central Valley Water Board must then determine whether allocating assimilative capacity to authorize a discharge that is expected to lower water quality is "consistent with maximum benefit to the people of the state." To make this finding for nitrate discharges, the SNMP recommends that the Central Valley Water Board consider the following factors:

1) Economic and social costs, tangible and intangible, direct and indirect, of the current proposed and any future discharge(s) compared to the benefits for both the discharger and all others that may be affected by the discharge. This includes an evaluation of the discharger's capacity to bear the costs of not degrading ~~of compliance~~ (e.g. "affordability") and any potential adverse impacts to the surrounding community, including but not limited to the cost of finding and providing interim and long-term replacement water or paying higher costs for treated water sources, an evaluation of the community's and residents' capacity to bear those costs, impacts on property values, and impacts on health. ~~This is not intended to be a formal Cost-Benefit Analysis.~~

2) Environmental effects of allowing or prohibiting the proposed discharge (especially the net effect on water quality in the region and the Central Valley Water Board's long-term restoration plans). ~~In some cases, where the net effect on receiving water quality is shown to be spatially and/or temporally limited, the Central Valley Water Board may conclude that the discharge does not result in significant degradation.~~

T~~In general, t~~he Central Valley Water Board should not ~~is less likely to~~ allocate assimilative capacity to discharges where there is a reasonably feasible and practicable means for maintaining ~~high quality~~ waters quality ~~achieving compliance~~ with traditional waste discharge requirements. Where no feasible alternatives to maintain high quality water exist, and to deny the discharge would result in widespread economic harm, the Central Valley Water Board may consider as a last resort an exception in order to allow the discharge to continue subject to conditions. ~~The Central Valley Water Board is also unlikely to prohibit discharges where no such means exist and considers this option only as a last resort.~~

~~Overall, the SNMP recommends that the Central Valley Water Board be predisposed to allocate assimilative capacity, and allow lower water quality, where doing so assures a significantly better outcome for the people of California than would requiring strict compliance with default waste discharge requirements. And, t~~The Central Valley Water Board should prioritize allocations of assimilative capacity when and where it would provide a demonstrably more effective means of assuring safe drinking water than other available permitting alternatives and there is a long-term plan to meet water quality objectives. To this end, a more detailed regional guidance document describing what sorts of demonstrations might constitute "maximum benefit to people of the state"[14] will be developed. It is anticipated that this recommended guidance will be submitted for consideration by the Central Valley Water Board as part of the final Basin Plan Amendment package to implement the SNMP.

Commented [1]: We are not comfortable with this localized approach to anti-deg.

Notably, if the Central Valley Water Board concludes that, even after implementing BPTC, a discharge will unreasonably affect present or anticipated beneficial uses of water, or result in water quality less than that prescribed in the Basin Plan, or cause ~~an unmitigated~~ pollution or nuisance to occur, or is inconsistent with maximum benefit to the people of the state, then lower water quality cannot be authorized by allocating a portion of the available assimilative capacity

1.4 Consideration of Water Quality Conditions

Understanding and being able to characterize current and projected water quality conditions is important because regulatory requirements differ when existing water quality is better than the applicable standard(s) (i.e., 10 mg/L-N for Nitrate).[15] Under such conditions, the range of permitting options also increases when the Central Valley Water Board finds that there is assimilative capacity available in the receiving water.[16] The SNMP implementation approach for permitting nitrate discharges to groundwater is separated into two paths. The first path (Path A) describes the proposed approach when an individual discharger (or third party group subject to a general order wishing to proceed under Path A) decides to comply with the nitrate components of the SNMP as an Individual/Third Party. The second path (Path B) describes the proposed approach when an individual intends to participate in a Management Zone to comply with the nitrate components of the SNMP.

Prior to determining which Path to follow, dischargers (individually or collectively) should conduct an initial assessment of their discharge, and evaluate any available Preliminary Management Zone Proposals. With this information, the discharger can then provide the Central Valley Water Board with a Notice of Intent on if the discharger(s) intends to comply with the nitrate components of the SNMP as an individual/Third Party group, or as a participant in a Management Zone.

1.5 Initial Assessment of Receiving Water and/or Discharge Conditions & Evaluation of Preliminary Management Zone Proposals

[14] NOTE: To be developed as part of the SNMP Basin Plan Amendment Package based on the concepts described in Attachment A (below).

[15] State Water Board. Resolution No. 68-16: Statement of Policy with Respect to Maintaining High Quality of Waters in California (October 28, 1968).

[16] The specific method CV-SALTS recommends for determining whether and how much assimilative capacity is available is described in Section XXX of this Salt and Nitrate Management Plan.

Establishing appropriate WDRs,[17] and determining an appropriate pathway for compliance with the SNMP for nitrates requires consideration of a number of key factors including, but not limited to:[18]

1) The current nitrate concentration in the receiving water and any relevant trends.

2) The nitrate concentration in the discharge when it reaches the groundwater. ~~,~~ ~~I~~If this~~e~~ information is not available, then an estimate of the concentration of the leaching risk in the form of A-R may be accepted~~.~~

3) The nitrate concentration of other dischargers that may impact receiving water quality~~recharges to the same management zone, if permitting on a management zone basis.~~

4) ~~Consideration of elements of a Preliminary Management Zone Proposal~~.

The permitting options available to the Central Valley Water Board, and the demonstrations required for various options, depends on these variables. An initial assessment is appropriate to determine how the regulated discharge is likely to affect nitrate concentrations in the receiving water. The level of effort to complete the initial assessment should be proportional to the relative risks involved. Low threat discharges in low vulnerability areas generally require considerably less detail. High threat discharges or high vulnerability areas may require more sophisticated analysis and modeling.

In the simplest case, groundwater quality currently complies with the primary MCL and nitrate concentrations in the discharge are even lower. No special consideration is necessary because the discharge complies with water quality standards and does not cause water quality degradation.

At the other end of the spectrum, where groundwater quality already exceeds the primary MCL for nitrate and there is no reasonably feasible or practical means for assuring that nitrate concentrations from the discharge will be less than 10 mg/L when the discharge reaches the groundwater, an alternative compliance option may be needed.

~~1.6 Permitting Pathways~~

~~The SNMP encourages dischargers to participate in Management Zones as the preferred method for complying with the nitrate components of the SNMP. However, participation in a Management Zone may not be appropriate for every discharger, or groups of dischargers, depending on water quality and various discharger related circumstances. Accordingly, the SNMP proposes two pathways for complying with the nitrate components of the SNMP. Path A is for those intending to comply with the SNMP as an individual discharger (or third party group subject to a general order), and follows more closely with the Central Valley Water Board's traditional permitting approach. Path B is for those intending to comply with the SNMP by participating in a Management Zone. Notably, for those dischargers intending to comply via Path A, assimilative capacity may be granted by the Central Valley Water Board subject to required findings but assimilative capacity must be available in shallow/first encountered groundwater. In comparison, for dischargers intending to comply by participating in a management zone (i.e., Path B), assimilative capacity may be granted by the Central Valley Water Board (again subject to required~~

[17] The term WDRs as used in this section refers to both WDRs and Conditional Waivers, and the strategy applies equally to the Central Valley Water Board's adoption of WDRs under CWC §13263 or adoption of Conditional Waivers under CWC §13269.

[18] State Water Board. In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 00481827), California Regional Water Quality Control Board, Central Coast Region. Order No. WQ 81-5; (3/19/81).

~~findings), and the Central Valley Water Board can evaluate the availability of assimilative capacity using a volume-weighted average. The level of information necessary, as well as WDR conditions/requirements, will vary based on the circumstances associated with each discharge.~~

~~Based on the order of priority notification, dischargers will need to notify the Central Valley Water Board of their intent to either comply with the components of the SNMP as an individual discharger, or as part of a Management Zone.[19] The SNMP recommends that the notification be made in the form of a Notice of Intent (NOI). Further, to make this election and submit a NOI, dischargers will need to evaluate Preliminary Management Zone Proposals that will be made available, as well as evaluate the circumstances of their own discharge. The NOI requirements will vary depending on the Path selected, and is described in relation to each Path below.~~

2.0 Path A - Permitting Strategy for Individual Discharger or Third Party Group Subject to General Order Wishing To Proceed Under Path A

2.1 Categorization of Discharges for Nitrates

The level of effort and the conditions/requirements imposed by the Central Valley Water Board in permitting nitrate discharges will vary depending on the impact to water quality. The SNMP recognizes that there are some discharges of nitrates to groundwater that would be considered low-threat, and are therefore relatively simple for the Central Valley Water Board to authorize in existing WDRs, or renewed/revised WDRs. For example, discharges that are better than receiving water quality and the receiving water is better than the water quality objective of 10 mg/L are considered to not lower water quality. In such circumstances, the discharge is not subject to the state's antidegradation policies and the Central Valley Water Board is not required to make the findings as specified in Resolution 68-16 to authorize the discharge. Others may be able to demonstrate that their discharge, or collective discharges, are low threat in nature because they have data and information that demonstrates that the discharges have not degraded groundwater over a specified time-period, and that the nature of the discharge has remained constant. For example, in some areas of the Central Valley where groundwater is better than the nitrate water quality objective, and cropping and cultural practices have remained constant, data and information may be used to demonstrate the low threat nature of the discharge.

However, at the other end of the spectrum, there may be discharges of nitrates that are above the drinking water standard, and there is no available assimilative capacity. In these circumstances, it may be appropriate for the Central Valley Water Board to grant an exception to meeting the water quality objective rather than prohibiting the discharge.

Because of the various levels of impacts, the SNMP establishes five categories for dischargers choosing to comply with the SNMP via Path A. The five categories are as follows:

[19] ~~For purposes of this notification, individual dischargers that are subject to General Orders that cover a specified geographic area or are commodity based, and that are administered by a Third Party (e.g., Third Party Orders for Irrigated Agriculture), the Third Party may provide notice as required in this step on behalf of its members. For individual dischargers that are subject to a General Order that is not administered by a Third Party (e.g., Dairy General Order), the individual must provide the necessary notice as indicated in this step.~~

- Category 1 - No Degradation Category: Discharge[20] is equal to or less than the water quality objective of 7.5~~10~~ mg/L, ~~and~~ the discharge is better than receiving water quality as measured in First Encountered Groundwater, and the discharge will not contribute to quality lower than the highest quality water to exist since 1968 or other standard as determined through an anti-degradation analysis.~~.~~

- Category 2 - *Degradation*~~*De minimus*~~ Category: Receiving water is better than water quality objective and the proposed discharge is above receiving water quality~~water quality objectives~~, thus leading to degradation. To allow allow degradation up to the trigger of 75% of water quality objectives (i.e. 7.5 mg/L)), the Central Valley Water Board will require additional monitoring and trend evaluations as part of the WDRs in order to make appropriate findings consistent with Resolution 68-16 and the SNMP. Discharges which would lead to degradation higher than 75% are required to apply for an exception in order to account for uncertainty of actual water quality. ~~has assimilative capacity in First Encountered Groundwater (i.e., is better than the water quality objective). For this category, the discharge may be above the water quality objective as it enters first encountered groundwater, but the discharge will use less than 10% of the available assimilative capacity, and is thus considered de minimus~~.

- ~~Category 3 - Degradation Below 75% of the Water Quality Objective Category: Discharges will be considered as part of this category if they anticipate using available assimilative capacity in First Encountered Groundwater that is considered to be more than *de minimus* but will not cause First Encountered Groundwater to exceed a trigger of 75% of the water quality objective for nitrate over a 20 year planning horizon. To allow use of assimilative capacity in this circumstance, the Central Valley Water Board will require may find it necessary to include additional monitoring and trend evaluations as part of the WDRs in order to make appropriate findings consistent with Resolution 68-16 and the SNMP.~~

- ~~Category 4 - Degradation Above 75% of the Water Quality Objective Category: Discharges will be considered as part of this category if they anticipate using available assimilative capacity in First Encountered Groundwater, and use of assimilative capacity will cause First Encountered Groundwater to exceed the trigger of 75% of the water quality objective for nitrate over a 20 year planning horizon. To allow use of assimilative capacity in this circumstance, the Central Valley Water Board will require may find it necessary to include additional conditions as part of the WDRs in order to make appropriate findings consistent with Resolution 68-16 and the SNMP.~~

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[20] Discharge as used here is intended to mean the quality of the discharge as it enters first encountered groundwater. Thus, the quality of the discharge itself may exceed the standard but due to transformation and other variables, it meets or is better than the objective as it enters first encountered groundwater.

- Category ~~5~~3 - Pollution~~Discharge Above Objective And No Available Assimilative Capacity~~: Discharges that exceed the 7.5 mg/L ~~water quality objective~~ trigger limit for nitrate, and where First Encountered Groundwater is greater than 75% of the water quality objective ~~has no available assimilative capacity~~, will be considered to be part of this category. Discharges in this category must~~may need to~~ seek an exception pursuant to the Exceptions Policy under the SNMP.

2.2 Submittal of Notice of Intent

For those dischargers that intend to comply via Path A, the NOI will need to include the following:

- An initial assessment of receiving water and/or discharge conditions.
- An initial assessment to determine if the discharge (or collective discharges) are impacting any nearby public water supply wells or domestic wells for nitrates.
- As applicable, an Early Action Plan, including specific actions and a schedule of implementation to address immediate needs of those drinking groundwater that exceeds the drinking water standard if there are public water supply or domestic wells impacted by nitrates within the area of influence of discharges covered by the NOI.
- Identification of Category of the Discharge (see section 2.1 above).
- Information necessary to support allocation of assimilative capacity, as applicable (see Section xx below).
- Application for Exception pursuant to the Exceptions Policy, as applicable.

2.3 Notice of Intent with Early Action Plan

When the Notice of Intent includes an Early Action Plan that includes a plan to address immediate drinking water needs, the Central Valley Water Board will notify the discharger within 30 days if the discharger may proceed forward with implementing the Early Action Plan.

2.4 Revision of WDRs/Compliance with SNMP

After receiving the Notice of Intent, the Central Valley Water Board should have the information necessary to determine if the discharger can comply with the SNMP with no further action, or if the discharger will be required to submit additional information and/or if additional WDR conditions are necessary for the discharger to comply with the SNMP for nitrates. In general, discharges that fall within Category~~ies~~ 1 ~~and 2~~, (No Degradation ~~and De Minimus respectfully~~), will be determined to comply with the SNMP for nitrates without the need for further conditions or requirements. For discharges that fall within Category 2 (Degradation)~~ies 3 and 4 (Allocation of Assimilative Capacity)~~, the Central Valley Water Board must make findings that are consistent with the State's Antidegradation Policy (Resolution No. 68-16). Due to ~~Depending on~~ the level of degradation, the Central Valley Water Board will ~~may~~ require additional conditions in WDRs to implement the SNMP, and to allocate assimilative capacity. For Category ~~5~~3, the Central Valley Water Board must~~will need to~~ find that the discharge complies with the provisions in the Exceptions Policy.

To make findings of compliance with the nitrate components of the SNMP, the Central Valley Water Board must make the following findings and/or impose the following conditions that are applicable to each individual category. The findings and/or conditions shall be included in a new/revised WDR.

2.4.1. Category 1 - No Degradation Category

- Discharge is equal to or better than the nitrate water quality objective of 7.5 ~~10~~ mg/L-N (i.e., less than 10 mg/L-N); and, discharge is better than receiving water quality as measured in First Encountered Groundwater.
- Discharge is deemed to be in compliance with SNMP.

2.4.2. ~~Category 2 - *Degradation*~~*De minimus* ~~*Category*~~

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- ~~Receiving water quality has assimilative capacity in First Encountered Groundwater (i.e., is better than water quality objective of 10 mg/L-N).~~
- ~~Discharge(s) will not use more than 10% of available assimilative capacity over a 20 year planning horizon.~~
- ~~To determine amount of assimilative capacity consumed by the discharge, the Central Valley Water Board will consider the quality of the discharge as it enters First Encountered Groundwater, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil.~~
- ~~Discharge will not unreasonably affect present and anticipated beneficial uses.~~
- ~~WDRs will ensure that discharges result in BPTC at a level that is necessary to assure that pollution and nuisance will not occur, and that the highest water quality consistent with the maximum benefit to the people of the state will be maintained.~~

2.4.2~~3~~. Category 2~~3~~ - Degradation ~~Below 75% of the Water Quality Objective Category~~

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- Receiving water quality has assimilative capacity in First Encountered Groundwater (i.e., is better than water quality objective of 10 mg/L-N).
- ~~Discharge(s) will use more than 10% of available assimilative capacity over a 20 year planning horizon.~~
- Discharge will not cause First Encountered Groundwater to exceed 75% of the water quality objective for nitrate over a 20 year planning horizon.
- If the discharge causes the First Encountered Groundwater to exceed 50% of the water quality objective for nitrate over a 20 year planning horizon, the discharger must fund the increased costs of monitoring required of local impacted water districts.
- To determine amount of assimilative capacity consumed by the discharge, the Central Valley Water Board will consider the quality of the discharge as it enters First Encountered Groundwater, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil.
- Discharge will not unreasonably affect present and anticipated beneficial uses.
- WDRs will ensure that discharges result in BPTC at a level that is necessary to assure that pollution and nuisance will not occur, and that the highest water

quality consistent with the maximum benefit to the people of the state will be maintained.

- Additional monitoring and periodic trend evaluation conditions are imposed to ensure compliance with SNMP
- Discharge must comply with the anti-degradation policy

~~2.4.4. Category 2~~4 ~~- Degradation Above 75% of the Water Quality Objective~~

- ~~Receiving water quality has assimilative capacity in First Encountered Groundwater (i.e., is better than water quality objective of 10 mg/L-N).~~
- ~~Discharge(s) will use more than 10% of available assimilative capacity over a 20 year planning horizon.~~
- ~~Discharge will cause First Encountered Groundwater to exceed 75% of the water quality objective for nitrate over a 20 year planning horizon but will not cause First Encountered Groundwater to exceed the water quality objective for nitrate over a 20 year planning horizon.~~
- ~~To determine amount of assimilative capacity consumed by the discharge, the Central Valley Water Board will consider the quality of the discharge as it enters First Encountered Groundwater, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil.~~
- ~~Discharge will not unreasonably affect present and anticipated beneficial uses.~~
- ~~WDRs will ensure that discharges result in BPTC at a level that is necessary to assure that pollution and nuisance will not occur, and that the highest water quality consistent with the maximum benefit to the people of the state will be maintained.~~
- ~~Discharger required to develop and implement a SNMP Implementation Plan for the nitrate components of the SNMP, which shall include the following:~~
  - ~~Identification of nitrate related drinking water supply issues in the area of influence of the discharge;~~
  - ~~Time schedule with milestones for addressing newly-identified nitrate related drinking water supply issues in the area influenced by the discharge;~~
  - ~~Preliminary identification of the steps that will be taken to evaluate actions necessary to implement Management Goals 2 and 3, which may be phased in over time and will likely require further evaluation and assessment to identify proposed long-term actions.~~

2.4.3~~5~~. Discharge will result in receiving water that exceeds 7.5 N mg/L~~Above Objective and No Available Assimilative Capacity~~

- Receiving water has no assimilative capacity (7.5 mg/L) for nitrates in First Encountered Groundwater.
- Discharge exceeds the water quality objective for nitrate.
- No reasonable, feasible or practicable means are available for discharger to comply with WDRs that would otherwise limit the discharge of nitrate to groundwater concentrations to less than 10 mg/L-N.
- It is infeasible, impracticable or unreasonable to prohibit the discharge.

- Discharger required to develop and implement a SNMP Implementation Plan for the nitrate components of the SNMP, which shall include the following:
    - Identification of nitrate related drinking water supply issues in the area of influence of the discharge;
    - Time schedule with milestones for addressing newly-identified nitrate related drinking water supply issues in the area influenced by the discharge;
    - Preliminary identification of the steps that will be taken to evaluate actions necessary to implement Management Goals 2 and 3, which may be phased in over time and will likely require further evaluation and assessment to identify proposed long-term actions.
- Discharger required to seek and obtain an exception in accordance with the Exceptions Policy.

~~**3.0 Path B - Permitting Strategy for Participants of A Management Zone**~~

~~**3.1 Preparation of a Preliminary Management Zone Proposal**~~

~~The SNMP encourages dischargers (and groups of dischargers) to work collectively to initiate development of a Preliminary Management Zone Proposal, the requirements of which are outlined in the Management Zone Policy. The purpose for preparing a Preliminary Management Zone Proposal is to provide all dischargers within the specified area for that management zone with enough information to make an election for complying with the nitrate components of the SNMP via Path A (as an individual discharger/third party group), or via Path B (participant in a Management Zone). After conducting their own initial assessment of their discharge, and after evaluating any applicable Preliminary Management Zone Proposal, dischargers will then need to notify the Central Valley Water Board of their election.~~

~~**3.2 Submittal of Notice of Intent**~~

~~For those dischargers that intend to comply with Path B, the NOI shall include identification of the Management Zone in which the discharger intends to participate, and acknowledge that they have reviewed and understand the commitments associated with participation in the Management Zone based on the Preliminary Management Zone Proposal that applies for their area of discharge.~~

~~**3.3 Implementation of Early Action Plan**~~

~~As part of participating in a Management Zone, dischargers will need to collectively be responsible for implementing the Early Action Plan that is part of the Preliminary Management Zone Proposal. Although WDRs for dischargers participating in a Management Zone will not yet be revised at this step in the process, the SNMP recommends that the Central Valley Water Board find participating dischargers in compliance with nitrate components of the SNMP as long as the participant is timely, and in good faith, participating in the Management Zone. Participating in the Management Zone includes assisting in the implementation of the Early Action Plan, and assisting in developing the Revised Management Zone Proposal. For dischargers that are subject to a General Order as a member of a Third Party Group, Third Party Group participation on behalf of its members shall constitute discharger participation.~~

3.3 Revision of WDRs/Compliance with SNMP

~~Per the Management Zone Policy, the Central Valley Water Board will revise WDRs/Conditional Waivers for those dischargers participating in the Management Zone after receiving the Revised Management Zone Proposal. Requirements for a Revised Management Zone Proposal are identified in the Management Zone Policy. Revisions to relative WDRs/Conditional Waivers may occur individually, or through a resolution that amends all applicable WDRs/Conditional Waivers.~~

~~Generally, the Central Valley Water Board will require Management Zone participants in the WDRs/Conditional Waivers to implement the detailed workplan for development of the SNMP Implementation Plan, and upon Central Valley Water Board approval of the SNMP Implementation Plan, to immediately transition to implementation of the SNMP Implemenation Plan.~~

~~To comply with the SNMP, the Revised Management Zone Proposal will indicate if the Management Zone is seeking compliance through the allocation of assimilative capacity on volume-weighted basis, or through an exception to meeting the water quality objective for nitrate.~~

4.0 Allocating Assimilative Capacity

4.1 Path A - Individual Dischargers

As indicated previously, dischargers electing to comply with the nitrate components of the SNMP may use available assimilative capacity in First Encountered Groundwater. Realistically, the amount of analysis and information necessary for allocating available assimilative capacity will vary - depending on if the discharger, or group of dischargers, will degrade the receiving water (based on highest quality water since 1968) ~~is seeking to use less than 10% of available assimilative capacity~~, degrade water quality up to 7.5 mg/L~~75% of the water quality objective~~, or degrade water in excess of 7.5 mg/L~~quality objective above 75% of the water quality objective. .~~[21]

The Central Valley Water Board will continue to account for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil. The Central Valley Water Board will also continue to consider any dilution that may occur from other sources recharging to the same aquifer. [22]

When deriving appropriate WDRs for nitrate, the Central Valley Water Board will initially presume that the discharge can comply with such restrictions by implementing the Best Practicable Treatment or Control (BPTC) measures. In such cases, the Central Valley Water Board will likely allow the discharge and require appropriate monitoring to demonstrate on-going compliance. If dischargers require additional time to implement the necessary pollution control measures to meet what would be considered BPTC, the Central Valley Water Board is authorized to include a compliance schedule in the WDRs.

For dischargers electing Path A, assimilative capacity represents the amount of nitrate that a given local area of influence can absorb without exceeding the applicable water quality objective. Assimilative capacity is calculated by subtracting the current average nitrate concentration in the defined aquifer from the water quality objective (usually 10 mg/L). [23] In practice, the actual computation is a good deal

[21] See Section 4.0 of the SNMP for definitions.

[22] SWRCB. In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 00481827), California Regional Water Quality Control Board, Central Coast Region. Order No. WQ 81-5; (3/19/81).

[23] State Water Board. Policy for Water Quality Control for Recycled Water; Res. No. 2009-0011 (Feb. 3, 2009)

more difficult because nitrate concentrations can vary dramatically based on depth, location and sampling date, even when evaluating available assimilative capacity in First Encountered Groundwater.[24] This introduces some uncertainty into the calculation and, as a result, the Central Valley Water Board ~~may~~ should be reticent to allocate all of the assimilative capacity that is estimated to be available - especially when state law does not obligate them to do so.[25]

Dischargers electing to comply with the SNMP via Path A, will need to submit information necessary to support the allocation of assimilative capacity. This information is generally referred to as an antidegradation analysis. The level of analysis necessary will vary based on the Category in which the discharge falls within. For discharges that fall within Category 2, the demonstration for granting assimilative capacity can be made by preparing a "simple" antidegradation analysis. For discharges that fall within Categories 3 and 4, the demonstration for granting assimilative capacity can be made by preparing a "complete" antidegradation analysis. Elements for a simple and complete antidegradation analysis are identified in Appendix X.

4.2 Path B - Participants of a Management Zone

The requirements for allocating assimilative capacity for management zones is specified in the Management Zone Policy.

5.0 Granting an Exception to Meeting the Water Quality Objective for Nitrate

5.1 Overview

As indicated previously, the Central Valley Water Board is required to implement the Basin Plans when establishing WDRs.[26] When existing nitrate concentrations in the groundwater already exceed 10 mg/L, and there is no assimilative capacity available, the State Water Board has previously ruled that regional boards may not authorize WDRs that allow discharges to be greater than the applicable water quality objective.[27]

For discharges to groundwater, compliance with the objective is generally assessed at the point-of-discharge or immediately below the root zone of an irrigated field.[28] Exceptions to this approach *"may be granted where it can be shown that a higher discharge limitation is appropriate due to system mixing or removal of the constituent by the process of percolation through the ground to the aquifer."*[29] So, for example, the Central Valley Water Board may take into consideration crop uptake, mixing with stormwater recharge, and transformation through the soil when assessing whether a discharge will

[24] A detailed explanation of the procedure that CV-SALTS recommends for estimating available assimilative capacity is described in Section XXX of the SNMP.

[25] CWC §13263(c)

[26] CWC §13263(a) and § 13269(a) for Conditional Waivers.

[27] See, for example, SWRCB Order No. 73-4: In the Matter of the Petition of Orange County Water District for Review of Order No. 72-16 of the California Regional Water Quality Control Board, Santa Ana Region, Prescribing Waste Discharge Requirements for Rancho Caballero Mobile Home Park (Feb. 1, 1973).

[28] State Water Board Order No. WQ-88-12: In the Matter of the Petition of Carol Ann Close; San Diego County Milk Producers Council, el al. (pg. 14)

[29] State Water Board Order No. WQ-81-5: In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region. (March 19, 1981).

meet the water quality objective when it reaches the groundwater. The burden of providing adequate technical information to support such findings generally falls on dischargers.

The above approach generally describes the Central Valley Water Board's current permitting strategy for discharges of nitrate to groundwater when there is no assimilative capacity available. If discharges are unable to immediately comply with such restrictions, and require additional time to implement the necessary pollution control measures, the Central Valley Water Board is authorized to establish an appropriate compliance schedule in the WDRs.[30] The SNMP recommends no changes to the Regional Board's existing authority in this area.

However, in some cases, there may be no reasonably feasible or practicable means for dischargers to comply with WDRs limiting the discharge of nitrate to groundwater to concentrations less than 10 mg/L, at least at the present time.[31] In such circumstances, under the current regulatory framework, the Central Valley Water Board may have no legal option but to prohibit the discharge.[32] This, in turn, may be tantamount to prohibiting any activity producing a discharge that is unable to comply with water quality objectives despite employing reasonable best efforts. Such an outcome is inconsistent with the State Water Board's declaration that *"Resolution 68-16 is not a 'zero-discharge' standard but rather a policy statement that existing quality be maintained when it is reasonable to do so."*[33]

In many instances, prohibiting the discharge may also be infeasible, impracticable or unreasonable. For example, municipal wastewater treatment plants cannot simply halt the flow of sewage into the facility without severe adverse consequences on public health and the environment. Similarly, prohibiting nitrate discharges from production agriculture may result in substantial and widespread adverse social and economic impacts on residents of the state while doing little to resolve the existing water quality impairments in the region. For this reason, the State Water Board had concluded that:

> *"Pollution prevention and cleanups … may not be feasible. Consequently, any practical solution to groundwater contamination must also focus on strategies to provide safe drinking water to consumers through treatment and alternative water supplies."*[34]

To that end, the State Water Board has also declared that:

> *"The single most important action that can be taken to help ensure safe drinking water for all Californians is to provide a stable, long-term source(s) of funding to assist those impacted by nitrate-contaminated groundwater."*[35]

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[30] CWC §13263(c)

[31] See, for example, a more detailed discussion in: "Conclusions of the Agricultural Expert Panel: Recommendations to the State Water Resources Control Board pertaining to the Irrigated Lands Regulatory Program" September 9, 2014.

[32] CWC §13243 and CWC §13301; see also SWRCB Order No. 88-12: In the Matter of the Petition of Carol Ann Close; San Diego County Milk Producers Council, el al. (pg. 15).

[33] State Water Board Order No. 86-8; In the Matter of the Petition of the County of Santa Clara, et al. May 5, 1986; pg. 29

[34] State Water Board. Report to the Legislature: Recommendations for Addressing Nitrate in Groundwater. February 2013; pg. 5 (citing Thomas Harter, et al., Addressing Nitrate in California's Drinking Water: Report to the California State Water Resources Control Board. U.C. Davis Center for Watershed Sciences. January 2012).

[35] State Water Board. Report to the Legislature: Recommendations for Addressing Nitrate in Groundwater. February 2013; pg. 24.

Moreover, enforcing strict compliance with water quality objectives will do nothing to address prior nitrate discharges slowly moving through the vadose zone.[36] Nor does prohibiting the discharge determine when compliance cannot be achieved.[37] In either case, legacy loads are already programmed into the system even if the full effects~~affects~~ have yet to manifest in groundwater quality.

Thus, with this background in mind, the SNMP recommends that where existing groundwater quality already exceeds the MCL for nitrate (i.e., > 10 mg/L), the Central Valley Water Board's foremost goal should be to encourage rapid implementation of safe drinking water alternatives, while also requiring that dischargers work on reducing their nitrate loading to the aquifer. ~~–~~ To achieve this goal, the Central Valley Water Board needs additional permitting options. Specifically, the SNMP recommends that the Basin Plans be amended to extend and expand the Central Valley Water Board's current authority to authorize exceptions under certain circumstances.[38] The following section describes how such exceptions authority should be applied with respect to permitting nitrate discharges to groundwater. A more detailed description of the specific basin plan revisions required to enact a broader exceptions policy and the rationale for such changes is provided in Section XXX of the SNMP.

5.2 Authorizing Exceptions

An "exception" allows the Central Valley Water Board to authorize a discharge to occur even where doing so may violate applicable water quality standards in the receiving groundwater basin.[39] Exceptions are most commonly employed when there is no feasible, practicable or reasonable means for a discharge to meet with water quality objectives and it is not feasible, practicable or reasonable to prohibit the discharge.

Exceptions are an appropriate option when state authorities determine that prohibiting a discharge would do more harm than good and allowing it to continue, with certain additional requirements and conditions, is in the best interests of the people of the state. Exceptions may also be an appropriate tool to authorize the time required to implement other regulatory solutions (e.g., developing site-specific objectives or reevaluating the applicable beneficial use) or to support a program of phased implementation and reasonable resource allocation including the planning and permitting activities required in such programs. However, exceptions are not intended to be a permanent waiver from compliance obligations. They are subject to specified conditions and reviewable periodically.

With respect to exceptions for nitrates, the SNMP recommends two overarching conditions. First, dischargers are still expected to to employ BPTC ~~make reasonable best efforts intended to comply with applicable WDRs when there exists a feasible and practicable means for doing so.~~ Second, in lieu of

[36] State Water Board. Report to the Legislature: Recommendations for Addressing Nitrate in Groundwater. February 2013; pg. 5 (citing the UC-Davis Report identified in Footnote #3, above).

[37] State Water Board. Report to the Legislature: Communities that Rely on Contaminated Groundwater. January 2013. See discussion at pages 18-20 in the report. See also the United Nations Report of the Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation. A/HRC/18/33/Add.4 (August 2, 2011). http://www2.ohchr.org/english/bodies/hrcouncil/docs/18session/A-HRC-18-33-Add4_en.pdf

[38] Central Valley Water Board Resolution No. R5-2014-0074 (June 6, 2014); subsequently approved by the SWRCB in Res. No. 2015-0010 (March 17, 2015).

[39] Exceptions from compliance with water quality standards in a groundwater basin is similar to the concept of a "variance" for surface waters. The key distinction is that exceptions are governed exclusively by state law and variances are subject to both state and federal authority. See, for example, Res. No. R5-2014-0074.

meeting the applicable water quality objective for nitrate, dischargers will be expected to propose an Alternative Compliance Project (ACP) designed to mitigate the significant adverse effect(s) of their permitted discharge as it relates to nitrate for which an exception is granted.[40] Moreover, an ACP for nitrate will need to assure that groundwater users down-gradient of the discharge have drinking water that meets applicable state and federal standards. ACPs need to~~may~~ include ~~both~~ interim actions (e.g., bottled water) in the short-term, permanent solutions (such as well-head treatment, service connections to larger systems, or alternative drinking water supplies) in the intermediate term, and efforts to re-attain the water quality objective (where feasible and practicable) over the long-term. In granting an exception, the Central Valley Water Board must also consider the three management goals, as discussed previously in Section XXXX.

The SNMP recommends that exceptions be reviewable every ten years.~~for two reasons~~ to ensure compliance with and, if necessary revise necessary conditions, such as improved source control and treatment technologies .~~P First, although the means to assure compliance may not currently exist, new source control and treatment technologies may be developed in the future. Therefore, exceptions need to be periodically reassessed. Second, p~~Permanent exceptions would be tantamount to nullifying the designated use. Therefore, where compliance cannot be assured (even over the long-term), the State Water Board has stated that the regional boards should consider whether the water quality standard itself is appropriate.[41] Exceptions are intended to complement, not replace, the water quality standards review process.

In the Basin Plans, the current exceptions policy is restricted to a limited number of salinity constituents (electrical conductivity, TDS, chloride, sulfate and sodium).[42] As discussed separately in the Exceptions Policy document (see Section XX), this policy should be revised in order to provide the Central Valley Water Board additional authority to allow exceptions for nitrate in WDRs. In summary, the current exceptions policy was deliberately designed to provide interim relief from meeting salinity objectives while CV-SALTS was in the process of developing the long-term SNMP. As such, the interim policy does not allow exceptions longer than 10 years and it prohibits the Central Valley Water Board from approving any new exceptions after June 30, 2019. Before that date, it was expected that the interim policy would be replaced by a more permanent exceptions policy – one that was developed in conjunction with the SNMP.[43]

The SNMP recommends that the expiration date specified in the interim policy be deleted so that that the Central Valley Water Board is authorized to approve exceptions after June 30, 2019. ~~In addition, the SNMP recommends that the 10-year time limit specified in the interim policy be revised by allowing the Central Valley Water Board to authorize or reauthorize exceptions for much longer periods where necessary to facilitate implementation of the long-term restoration strategies described in the SNMP~~.[44] Regardless, dischargers are expected to comply with water quality standards if and when a feasible and practicable means for doing so becomes available. The existing requirement to periodically assess and

[40] A more detailed description of the mandatory elements in an ACP is described in Section XXX of this SNMP.

[41] State Water Board Order No. WQ-81-5: In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region. (March 19, 1981).

[42] Res. No. R5-2014-0074

[43] R5-2014-0074; Regional Board Staff Response to Public Comments, pg. 12 & 13.

[44] The long-term approach to nitrate management is described in Section XXX of the SNMP.

confirm discharger conformance with the terms and conditions of any exception would remain unchanged.

To grant an exception for discharges of nitrate, the SNMP recommends that the Central Valley Water Board consider the following factors:

1) Nitrate concentrations in the groundwater basin exceed or threaten to exceed the MCL.
2) There is no feasible, practicable or reasonable means to assure compliance with the relevant WDRs governing nitrate under traditional permitting approaches.
3) It is infeasible, impracticable or unreasonable to prohibit the discharge. The Central Valley Water Board will prepare guidelines for making such an assessment.
4) Authorizing the discharge is in the best interests of the people of the state.
5) The discharger, or group of dischargers, requests an exception and proposes to implement an ACP in lieu of meeting the relevant WDRs for nitrate.
6) The ACP provides appropriate well-head treatment or an alternative drinking water supply to down-gradient groundwater users where nitrate levels exceed Nitrate concentrations of 7.5 mg/L ~~or threaten to exceed the MCL~~.[45]
7) The ACP provides a plan to meet Nitrate levels of 7.5 mg/L~~water quality objectives~~ or lower within an identified period of time, and clear milestones and timelines demonstrate progress toward the goal. ~~over the long-term.~~
8) The discharger continues to employ BPTC /~~make reasonable~~ best effort~~s, where feasible and practicable~~, to further reduce nitrate concentrations in the discharge.
9~~8~~) The discharger agrees to actively support implementation of the long-term nitrate compliance plan, as described in the SNMP.

Further, to approve an exception for nitrate, the SNMP recommends that the Central Valley Water Board consider whether the ACP will result in a higher level of public health protection (e.g., greater or faster risk reduction) than is likely to otherwise occur if the discharge were prohibited or is a key part of a long-term restoration strategy. In other words, will the ACP do a better job of achieving the real-world outcomes originally sought by requiring strict compliance with WDRs to meet water quality standards?

5.0 Proposed Modifications to the Basin Plans to Support Policy Implementation

The following subsections summarize the key changes anticipated for each Basin Plan to support adoption of this policy.

Existing and Potential Beneficial Uses

No modifications anticipated.

Water Quality Objectives

No modifications anticipated.

[45] The discharger may propose to participate in a regional project or make one or more payments to a regional nitrate mitigation fund approved as an ACP subject to Regional Water Board review and approval.

Implementation

Incorporate the relevant elements of this Policy into the Basin Plans to describe the permitting approach for nitrate in groundwater.

EJ STAKEHOLDERS PROPOSED MANAGEMENT ZONE ALTERNATIVE

KEY ISSUES IN DRAFT POLICY DOCUMENT	PROPOSED ALTERNATIVE/OPTION	EXECUTIVE POLICY COMMITTEE DECISION
Management zone policy applies specifically to groundwater.	• Expand the management zone policy to also apply to surface water.	
Management zone policy would apply to nitrates and salinity.	• Limit management zone policy to nitrate at this time. May be appropriate for salinity after Phase I. • Expand management zone to allow for inclusion of other contaminants that may be of concern for drinking water.	
Management zones are a pathway for complying with Basin Plan requirements (i.e., permit compliance).	• Management zones would be unavailable for permit compliance, but may be appropriate for modeling, monitoring, and other activities.	
Management zones are to be established to help address the priority issue of ensuring that users are being provided safe drinking water, which includes development and implementation of an Early Action Plan.	• Management zones are not the appropriate entity to ensure safe drinking water. • Dischargers should be required to pay into a mitigation fund, and the Office of Sustainable Water Solutions should be responsible for ensuring safe drinking water.	
Maximum size/area of a management zone relatively undefined.	• Management zones should not be allowed to be any larger than the DWR Bulletin 118 basins/sub-basins, but may be smaller.	
Dischargers have the discretion to join a management zone, or be permitted as an individual (or group under General Orders)	• If a management zone exists for the area where the individual is located, Regional Board needs to be able to require additional conditions/demonstrations for a discharger that chooses to not participate.	

There is a set 270-day timeline for development of a preliminary management zone proposal, and an additional 60 days for dischargers to submit their notice of intent with respect to which path for compliance.	• Executive Officer should have flexibility to extend timeline for development of a management zone. • The 270-day timeline should apply only to those priority areas that receive notice prior to the effective date of Basin Plan amendments, other areas should be granted a year. • The timelines should be removed from the policy and the discretion should be given to the Regional Board. • Timelines for the first priority area are too short/long.	
Dischargers notify the Regional Board of their participation in a management zone within 60 days after a preliminary management zone proposal is posted.	• There should be some mechanism that allows dischargers to join the management zone even if it is after the 60 days from when the preliminary management zone proposal is posted. • Executive Officer needs some level of discretion to allow dischargers to join and/or depart from participating in a management zone.	
Minimum goal of a management zone is to be consistent with short-term and long-term goals of the SNMP.	• Clarify that the need to achieve balance and restore aquifers is where it is reasonable and feasible to do so.	
Assimilative capacity within a management zone may be determined based on a volume-weighted average in the production zone of the delineated management zone boundary.	• For nitrate, limit determination of available assimilative capacity based on a volume weighted average in the upper zone.	
Management zone policy is silent with respect to additional	• Add in additional language that directs the Regional	

actions that the Regional Board should undertake if water quality impairments are created due to water supply operations and/or septic systems.	Board to petition the State Board if water supply operations are cause of water quality impairments. • Add in additional language with respect to actions the Regional Board will take if there are local sources of impairment from sources such as septic systems.	

Draft Policy No. X: Revision of the Exceptions Policy for Waste Discharges to Groundwater

1.0 Regulatory Basis for Revision of the Exceptions Policy for Waste Discharges to Groundwater

1.1 Background

As described in the Nitrate Permitting Strategy in the SNMP,[46] the Central Valley Regional Board is required to implement the Basin Plans when it authorizes discharges through the adoption of WDRs and Conditional Waivers. This includes incorporating into the WDRs/Conditional Waivers provisions that ensure beneficial uses are protected, and that receiving waters meet or are better than water quality objectives that are adopted to protect beneficial uses. When permitting discharges, the Central Valley Water Board traditionally looks to see if the discharge itself meets (or is better than) the applicable water quality objective, and if not, if assimilative capacity is available in the receiving water. In cases where there is assimilative capacity, the Central Valley Water Board then determines if it can make the necessary findings as required by Resolution No. 68-16[47] to authorize use of assimilative capacity.

In the Central Valley, there may be circumstances where the discharge is not better than the applicable water quality objective and no assimilative capacity is available, or the Central Valley Water Board is unable to make the necessary findings to authorize use of assimilative capacity even if it is available. Traditionally, in such circumstances, the State Water Board has directed that the Central Valley Water Board either prohibit the discharge, adopt a time schedule in the order that allows the discharger to come into compliance with needed WDR provisions, or revise the applicable water quality standard.

The Central Valley Water Board has recognized that with respect to salts, it may not be reasonable, feasible or practical to prohibit the discharge or issue a time schedule with the expectation that the discharge can meet applicable water quality objectives in a reasonable time period. Further, the Central Valley Water Board is hesitant to revise water quality standards, which would permanently remove the beneficial use. Accordingly, the Central Valley Water Board adopted a Policy for Exceptions from Implementing Water Quality Objectives for Salinity (Exceptions Policy) in Resolution No. R5-2014-0074, on June 6, 2014. The State Water Board approved that policy in Resolution No. 2015-0010, on March 17, 2015. The Policy amended the Basin Plans and established "*procedures for dischargers that are subject to WDRs and conditional waivers to obtain a short-term exception from meeting effluent or groundwater limitations for salinity constituents.*"[48]

[46] See SNMP Section XX

[47] State Water Board Resolution 68-16. Statement of Policy with Respect to Maintaining High Quality of Waters in California (Antidegradation Policy). 1968

[48] Central Valley Water Board Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin To add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity; Final Staff Report, June 2014, Final Staff Report ("Variance & Exceptions Policy"); page ES-3.

With the Exceptions Policy, the Central Valley Water Board established a Salinity Exception Program that is *"in effect during the development and initial implementation of the Salt and Nitrate Management Plans"*[49] that at the time were being prepared through the CV-SALTS process. The Salinity Exception Program (aka "Streamlined Policy") applies only to electrical conductivity, total dissolved solids, chloride, sulfate and sodium.[50] The current Exceptions Policy prohibits the Central Valley Water Board from authorizing new exceptions or reauthorizing previously approved exceptions after June 30, 2019. The sunset date was included because the Central Valley Water Board intended that any permanent, long-term exceptions policy should be developed through the CV-SALTS process and that stakeholders needed to make appropriate recommendations for such a policy in the SNMP.

In accordance with the Central Valley Water Board's direction in developing the current Salinity Exceptions Program, this SNMP recommends that the current Exceptions Policy be revised.

1.2 Justification for Extending/Expanding the Current Exceptions Policy

The Central Valley Water Board's original rationale for adopting the current Exceptions Policy was to provide temporary permitting flexibility while CV-SALTS was developing the SNMP, and to encourage dischargers throughout the region to actively participate in that process. If CV-SALTS stakeholders determined that a permanent Exceptions Policy is necessary to assure successful implementation, the Central Valley Water Board instructed the stakeholders to describe and justify their recommendations in the SNMP itself. This policy is intended to implement that recommendation.

The SNMP finds that there may be instances where it is infeasible, impracticable or unreasonable for dischargers to comply with certain WDRs even with a compliance schedule. Under such circumstances, and when there is little or no assimilative capacity available, the Central Valley Water Board presently has only two regulatory options available: (a) where appropriate, revise the applicable water quality standards and related WDRs, or (b) disallow the discharge.

Revising water quality standards (uses and or objectives) is a complex, timely process requiring considerable documentation and numerous opportunities for public comment as revisions can result in negative impacts to public health. Thus, in most cases, the Central Valley Water Board will be hesitant to or legally unable to revise the water quality standard and would prefer to adopt an exception that is time-limited. ~~rather than permanently revise a water quality standard~~. Consequently, legally allowing for an exception to meeting the objective may be necessary to give the discharger additional time to come into compliance with water quality objectives. ~~needed to provide time to complete the full regulatory review and approval process for revising the water quality standard. Or, in many cases, the Central Valley Water Board will be hesitant to revise the water quality standard and would prefer to adopt an exception that is time-limited rather than permanently revise a water quality standard.~~

Prohibiting the discharge may also be infeasible, impracticable or unreasonable. If the Central Valley Water Board determines that a non-compliant discharge cannot or should not be prohibited, then some form of exception is required. Examples of situations where the Central Valley Water Board may conclude that it is infeasible, impracticable or unreasonable to prohibit the non-compliant discharge include, but are not limited to:

[49] Variance & Exceptions Policy; page ES-3.
[50] Variance & Exceptions Policy; page 51.

~~1) Situations where compelling the discharge to comply with the applicable WDR (and assuming it was possible to do so) would not significantly improve water quality or assure attainment of the related standards in the foreseeable future (≈20 years).~~

~~2)~~1) Situations where allowing the discharge is likely to result in nominal but insignificant changes in receiving water quality with no meaningful increase in public health risk, it is impractical, infeasible and unreasonable for the discharger to comply with the applicable WDR, and discharger~~s~~s comply with any conditions deemed necessary.

~~3)~~2) Situations where disallowing the discharge would likely result in widespread and substantial adverse social and economic impacts in the region.

~~4)~~3) Situations where allowing the discharge is projected to improve existing or expected quality in the receiving water; or, where disallowing the discharge would be more harmful to water quality and/or the environment than allowing it to continue despite the failure to comply with the WDR for which the exception is sought.

~~5)~~4) Situations where allowing the discharge to continue is necessary to preserve or sustain other beneficial uses, or to implement other important water resource management policies established by state authorities (e.g., increased water conservation, increased use of recycled water, increased groundwater recharge/storage, increased drought protection, etc.).

5) Situations where allowing the discharge to continue facilitates the Central Valley Water Board's larger and more comprehensive long-term program to achieve salt sustainability and~~, where feasible,~~ attain water quality standards in the groundwater (aka "restoration").

Regardless of the circumstances under which an exception is granted, the exception must include all conditions discussed in greater detail below, including use of BPTC, participation in a mitigation fund or other mitigation program that fully mitigates impacts to drinking water, and participation in a mitigation fund or other mitigation program that restores the quality of the aquifer to water quality objectives.

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2.0 Proposed Revisions to Exceptions Policy

2.1 Summary of Current Exception Policy

The current Exceptions Policy (adopted in June of 2014) restricts the Central Valley Water Board's authority solely to exceptions for salinity-related constituents. Presently, the definition of "salinity" includes only: electrical conductivity, total dissolved solids, chloride, sulfate and sodium. The current Policy does not provide the Central Valley Water Board with legal authority to approve exceptions for any other pollutants including nitrate.

Notably, the authority to approve an exception does not automatically grant an exception in any given instance. Exceptions must be authorized through a separate Board action. Also, under the current policy, exceptions must *"…be set for a term not to exceed ten years. For exception terms greater than five years,*

the Regional Board will review the exception five years after approval to confirm that the exception should proceed for the full term."[51] That review must be conducted in a public hearing.

In general, the current Exceptions Policy allows dischargers to apply to the Central Valley Water Board for an exception to discharge requirements from the implementation of water quality objectives for salinity. The exception may apply to the issuance of effluent limitations and/or groundwater limitations (i.e., receiving water limitations) that implement water quality objectives for salinity in groundwater, or to effluent limitations and/or surface water limitations that implement water quality objectives for salinity in surface water. Under the current Exception Policy, a discharger's application must include the following:[52]

- An explanation/justification as to why the exception is necessary, and why the discharger is unable to ensure consistent compliance with existing effluent and/or groundwater/surface water limitations associated with salinity constituents at this time;
- A description of salinity reduction/elimination measures that the discharger has undertaken as of the date of application, or a description of a salinity-based watershed management plan and progress of its implementation;
- A description of any drought impacts, irrigation, water conservation and/or water recycling efforts that may be causing or cause the concentration of salinity to increase in the effluent, discharges to receiving waters, or in receiving waters;
- Copies of any documents prepared and certified by another state or local agency pursuant to Public Resources Code Section 21080 et seq.; or, such documents as are necessary for the Regional Water Board to make its decision in compliance with Public Resources Code Section 21080 et seq.;
- Documentation of the applicant's active participation in CV-SALTS as indicated by a letter of support from CV-SALTS; and,
- A detailed plan of how the applicant will continue to participate in CV-SALTS and how the applicant will contribute to the development and implementation of the SNMPs.

A key requirement for granting an exception, is the requirement that the discharger needs to prepare and implement a Salinity Reduction Study Work Plan, or a salinity-based watershed management plan. A Salinity Reduction Study Work Plan shall at a minimum include the following:[53]

1) Data on current influent and effluent salinity concentrations;
2) Identification of known salinity sources;
3) Description of current plans to reduce/eliminate known salinity sources;
4) Preliminary identification of other potential sources;

[51] Variance & Exceptions Policy; page 51.
[52] Variance & Exceptions Policy; page 50.
[53] Variance & Exceptions Policy; page 51.

5) A proposed schedule for evaluating sources; and

6) A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

A salinity-based watershed management plan shall at a minimum include the following:[54]

1) A discussion of the physical conditions that affect surface water or groundwater in the management plan area, including land use maps, identification of potential sources of salinity, baseline inventory of identified existing management practices in use, and a summary of available surface and/or groundwater quality data;

2) A management plan strategy that includes a description of current management practices being used to reduce or control known salinity sources;

3) Monitoring methods;

4) Data evaluation; and,

5) A schedule for reporting management plan progress.

After considering the dischargers' application, the Central Valley Water Board may adopt an exception for salinity constituents after public notice and hearing through a resolution, or by amending WDRs/Conditional Waivers.

2.2 Recommendations for Revising Current Exceptions Policy

The SNMP recommends that the current policy be amended in the following ways to provide the Central Valley Water Board with the necessary authority and flexibility to permit discharges in a manner that the Central Valley Water Board deems to be appropriate.

1) Delete the provision prohibiting the Central Valley Water Board from authorizing new exceptions or reauthorizing previously approved exceptions after June 30, 2019. Because the Central Valley Water Board can decide for itself whether to grant or not grant specific exceptions, there is no need for any sunset provision that restricts their overall authority to make such decisions.

2) The current provision limiting the term of an exception to no more than 10 years should be retained; however, a new provision should be added stating that exceptions may be reauthorized (renewed) for one or more additional 10-year periods with approval of the Central Valley Water Board, after notice and hearing. Renewals of an exception must incorporate additional feasible measures for improving water quality in order to~~and ultimately~~ meet~~ing~~ water quality objectives within as short a timeframe as possible, but not to exceed 50 years. In addition, the discharger(s), in conjunction with Central Valley Water Board staff, should prepare a status report for presentation to the Central Valley Water Board every 5 years summarizing compliance with the terms and conditions of the exception, measurable results achieved~~evidence~~ of efforts to reduce contaminant load to the basin, and future efforts to reduce loading to the basin. The Central Valley Water Board staff maintains discretion to present such status reports to the Central Valley

[54] Variance & Exceptions Policy; page 52.

Water Board for individual exceptions, or collectively for multiple exceptions granted to multiple dischargers.

3) The current policy should be amended to add nitrate to the list of chemical constituents for which the Central Valley Water Board may authorize an exception. In order to ensure this is implemented as intended, it may also be necessary to include total nitrogen and various forms of nitrogen (total inorganic nitrogen [TIN], total kjeldahl nitrogen [TKN], etc.) to the same list. It will also be necessary to harmonize text throughout the existing policy where such text currently focuses exclusively on exceptions for "salinity."

4) The current policy should be amended to add a new provision requiring dischargers to assure an adequate supply of safe, reliable and affordable drinking water, as a condition of authorizing an exception for nitrate, in those areas of the groundwater basin or sub-basin adversely affected by the non-compliant discharge (or discharges). The "assurance" must include a credible and realistic framework to construct/install a permanent long-term solution and an immediate commitment to provide temporary replacement water in the interim, as well as accommodations to address the needs of un-identified ~~current~~ and future impacted residents as they are identified..

5) The current policy should be amended to add a new provision referencing the availability of regional guidance that describes the general requirements associated with seeking and approving an exception. These include, but are not limited to: eligibility criteria, mitigation responsibilities, monitoring/reporting obligations, and expectations relevant to implementing the SNMP Management Goals. The Regional Guidance will be developed and submitted for approval as part of the larger Basin Plan Amendment package in 2017.

6) The current policy should be amended to make clear that exceptions are intended to facilitate long-term attainment of water quality standards and ensure BPTC such that salt and nutrient balance is achieved. ~~or to provide the time needed to revise an inappropriate water quality standard~~. The Regional Board shall establish time frames by which long term attainment of water quality standards must be achieved and time frames by which salt and nutrient balance must be achieved. In no instance shall the timeframe exceed 50 years from the date the initial exemption is granted.

~~6)~~7) The Central Valley Water Board may renew and reauthorize exceptions but should not do so ~~indefinitely~~ if re-designation, de-designation and/or adoption of a site-specific water quality objective is the more appropriate regulatory approach.

~~7)~~8) The current policy should be amended to revise the application requirements so that such requirements now reflect and implement the SNMP management goals. Further, the application requirements should be revised to distinguish what requirements are applicable when seeking an exception from a salinity-based water quality objective versus applicable requirements for seeking an exception from the nitrate water quality objective.

~~8)~~9) ~~The current policy may also need to be amended to identify application requirements that apply to dischargers seeking an exception as part of a Management Zone rather than as an individual discharger. For more information on Management Zones, see Policy No. XX.~~

2.3 Authorization of Exceptions

The SNMP recommends that exceptions be authorized by the Central Valley Water Board subject to certain conditions and performance obligations on the discharger(s). This provides a mechanism to ensure that exceptions serve the greater good. To that end, the SNMP sets forth several important expectations governing the manner in which exceptions are likely to be considered by the Central Valley Water Board:

1) Exceptions for nitrate will not be considered unless an adequate supply of clean, safe, reliable and affordable drinking water is assured for those living in the area adversely affected by the non-compliant discharge(s). Said assurance must take the form of a detailed work plan, schedule of milestones, and financial commitments to provide interim and permanent alternate water supplies as well as cover additional costs borne by users~~residents~~ due to having to treat contaminated water. Performance bonds may be required to assure timely implementation. Payment into a mitigation fund may constitute the default mitigation program for drinking water. Additionally, exceptions for nitrate dischargers must include:

    a. Enforceable metrics and standards that will demonstrate reduced loading during the time in which the exception is in place including timeline to achieve those metrics and standards. Through such activities, the discharger shall demonstrate that it will achieve nutrient balance in as short a timeframe as possible - as determined by the Regional BOard - but not to exceed 50 years.

    b. Enforceable metrics and standards that will demonstrate long term restoration of the aquifer and timeline to achieve those metrics and standards - as determined by the Regional BOard - but not to exceed 50 years.

~~1)~~2) Dischargers shall employ best practicable treatment and control ~~are expected to continue to make reasonable "best efforts"~~ to comply with applicable WDRs. The specific nature of these efforts will be identified at the time the exception is proposed and authorized.

3) As a condition for reauthorizing/renewing an exception, dischargers will be required to

    a. P~~p~~eriodically reassess Best Management Practices (BMPs) and survey available treatment technologies to determine if feasible, practicable and reasonable compliance options have become available.

    b. Demonstrate that all parties impacted by nitrate contamination have a permanent solution to ensure safe, clean, affordable and reliable drinking water

    c. Demonstrate how practices are reducing loads and conforms with applicable timelines for compliance and will achieve nutrient balance within as short a timeframe as possible, not to exceed 50 years from the date the initial exception was granted.

    d. Demonstrate how practices will lead to long term restoration of the aquifer, including a timeline under which restoration will occur. Restoration of the aquifer should occur within as short a timeframe as possible, not to exceed 50 years from the date the initial exception was granted.

- ~~No more than 2 renewals will be granted~~

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~~2)~~4) Where exceptions are sought in order to provide time to develop and approve a more appropriate water quality standard (uses and/or objectives), there must be a well-defined work plan (including a schedule of milestones) and a commitment by dischargers to provide the resources needed to complete the proposed process.

~~3)~~5) Where existing water quality standards are unlikely to change, dischargers must explain how the proposed exception facilitates the larger long-term strategy designed to ultimately attain those standards (e.g., implementing Strategic Salt Accumulation Land and Transportation Study [SSALTS];[55] Nitrate Implementation Measures Study [NIMS],[56] forming and participating in a groundwater Management Zone,[57] etc.) while, in the interim, allocating available resources to address more urgent water quality priorities (e.g., safe drinking water), where applicable.

Under the SNMP's recommendations, authorization for exceptions may be granted by the Central Valley Water Board for individual dischargers, or for multiple dischargers under a Management Zone. Terms and conditions associated with the granting of an exception will be incorporated into relevant WDRs, and failure to comply with such terms and conditions may result in the termination of the exception and/or an enforcement action.

3.0 Proposed Modifications to the Basin Plans to Support Policy Implementation

The following subsections summarize the key changes anticipated for each Basin Plan to support adoption of this policy.

Existing and Potential Beneficial Uses

No modifications anticipated.

Water Quality Objectives

No modifications anticipated.

Implementation

Revise the existing Exceptions Policy in the Basin Plans as described above.

[55] *Strategic Salt Accumulation Land and Transportation Study (SSALTS), Final Phase 2 Report: Development of Potential Salt Management Strategies*. Report prepared by CDM Smith on behalf of CV-SALTS. October 1, 2014; *SSALTS, Final Phase 1 Report: Identification and Characterization of Existing Salt Accumulation Areas*. Report prepared by CDM Smith on behalf of CV-SALTS. December 13, 2013. Phase 3 Report in development.

[56] *Nitrate Implementation Measures Study Final Report*. Report prepared by CDM Smith on behalf of CV-SALTS, March 31, 2016.

[57] See Central Valley SNMP for Management Zone Policy.

Draft Policy No. X: Principles to Govern Development of an "Offsets" Policy for Permitting Discharges to Groundwater

What is an "Offset"?

An alternative means of achieving ~~partial or complete~~ compliance with Waste Discharge Requirements (WDRs), for a given pollutant or pollutants, by reducing ~~managing~~ other sources and loads not directly associated with the regulated discharge so that the combined net effect on receiving water quality from the discharge and the offset is functionally-equivalent to (and often better) than that which would have occurred by requiring the discharger to comply with their WDRs exclusively through its discharges.~~at the point of discharge~~. Offsets are voluntary but may be needed in order to permit the continued discharge of contaminants into the aquifer. They ~~They must be proposed by the discharger[58] as an Alternative Compliance Program (ACP), must be approved by the Central Valley Water Board, and~~ are enforceable through the WDR or other orders issued by the Board. Page 5 and following of this Policy document provides examples of potential applications of an Offsets Policy.

Principles of Offsets

Offsets may only be used to achieve water quality objectives in the specific area to which an underlying discharge impacts the receiving water. Offsets must eliminate the net negative impact of the underlying discharge in receiving water. No offsets may result in harm to beneficial uses or otherwise result in a negative impact in one or more areas in a management zone, basin, or subbasin. Projects or activities that do not result in achievement of water quality objectives shall not be considered an offset and instead may be considered a mitigation project or activity. Mitigation projects or activities ~~that~~ mitigate or lessen the impacts of dischargers yet do not result in the discharger meeting water quality objectives in the applicable receiving water. Mitigation projects or activities ~~may be mitigation measures and may~~ be conditions of exceptions whereas offsets may not.

What is the purpose for establishing an Offsets policy?

1) Offsets provide a mechanism, ~~other than approving an exception~~, for permitting otherwise non-compliant discharges in an area that lacks assimilative capacity by ensuring ~~while continuing to make progress toward~~ attainment of water quality standards in that area.~~basin or Management Zone~~.

2) Offsets provide a regulatory alternative, other than prohibiting the discharge or issuing an exception, when it is infeasible, impracticable or unreasonable to comply with WDRs directly.

3) Offsets provide a ~~another potential~~ method for permitting discharges with pollutant concentrations greater than the objective or higher than the current receiving water quality and can provide ~~better~~

[58] ~~Throughout this document the term "discharger" can connote either an individual discharger or a coalition of dischargers regulated under a common set of categorical WDRs.~~

overall improvement or result in less degradation in that receiving water basin, or sub-basin ~~or Management Zone~~. The discharge, however, may not result in negative localized impacts.

4) Offsets provide a mechanism to re-target the resources required to achieve compliance in order to produce greater public benefits (better net water quality, lower cost, less risk, etc.).

5) ~~Offsets provide a mechanism whereby diverse dischargers within the same Management Zone can pool available resources to implement ACPs, in phases, based on reducing impacts to beneficial users on a risk-priority basis. The option to pool resources creates a strong incentive to establish such Management Zones.~~

6) Offsets provide a mechanism to develop and fund large-scale, long-term regional water quality improvement projects such as described by the Strategic Salt Accumulation Land and Transportation Study (SSALTS)[59] or the Nitrate Implementation Measures Study (NIMS)[60] by recognizing participation in such efforts as partial credit toward compliance.

7) ~~Offsets create a market-based incentive to establish Mitigation Banks designed to develop and implement water quality improvement projects. This is particularly useful for pooling the resources of many relatively small dischargers into a critical mass of funding to support projects that would normally be beyond their individual means.~~

~~8) Offsets encourage creative solutions to complex problems by measuring success at the most critical endpoint: Net effect of water quality on end-users. This outcome-oriented approach is consistent with the primary purpose for imposing water quality standards-based permit requirements in the first place.~~

~~9)~~8) The current Central Valley Basin Plans do not authorize the Central Valley Water Board to consider offsets when evaluating compliance. If such authority is added to the Basin Plans the Board must take separate action, through the normal public notice and hearing process, to consider and approve any proposed offset.

Where do Offsets fit within the array of existing regulatory options?

1) When offsets are employed, compliance is assessed by considering the aggregate net effect of the discharge and the offset project(s) on receiving water quality. Consequently, if a discharge requires an offset in order to achieve compliance with one or more receiving water limitations, then implementation of the offset must be enforceable through the WDRs.

2) IWhere ~~Where an allocation of assimilative capacity is sought, i~~implementing an offset project may be the best practicable treatment or control that is most consistent with maximum benefit to the people of the state. This is ~~particularly~~ true where the net effect on receiving water quality ~~and/or end-users~~ is better than would otherwise occur by requiring strict compliance with water quality

Commented [2]: This may qualify as a mitigation project, but not an offset

Commented [3]: This may be a mitigation project, but not an offset

[59] *Strategic Salt Accumulation Land and Transportation Study (SSALTS), Final Phase 2 Report: Development of Potential Salt Management Strategies*. Report prepared by CDM Smith on behalf of CV-SALTS. October 1, 2014; *SSALTS, Final Phase 1 Report: Identification and Characterization of Existing Salt Accumulation Areas*. Report prepared by CDM Smith on behalf of CV-SALTS. December 13, 2013.

[60] *Nitrate Implementation Measures Study (NIMS) Final Report*. Report prepared by CDM Smith on behalf of CV-SALTS, March 31, 2016

standards at the point of discharge. ~~In such cases, implementing the proposed offset project would become a condition for allocating assimilative capacity to the discharge.~~

3) ~~Where there is no assimilative capacity available, or the Central Valley Water Board is unwilling to allocate the available assimilative capacity,~~[61]

4) Where offsets can be used to eliminate~~minimize~~ the net negative e~~a~~ffect on receiving water quality

5) Mitigation efforts may be required ~~as a condition for authorizing an exception to a non-compliant discharge. In such cases, the offset program may be used to help demonstrate that the discharger is making "reasonable progress" at eliminating~~mitigating ~~excess pollutant loads where feasible and practicable. Implementation of the offset project would become a condition for granting the exception and be enforceable through the WDRs.~~

a. Comment: #5 may quality as a mitigation program or project required by an exception.

~~3)~~6) Offsets have been most commonly and successfully applied where a formal load allocation has been established for a given pollutant in a given receiving water. The presence of an accepted procedure for calculating and assigning pollutant loads also facilitates the process needed to validate and account for credits generated by the offset program.

~~4)~~7) Although offset projects may be proposed for any type of discharge, they are a particularly useful tool to implement more cost-effective water quality control strategies where the Central Valley Water Board has elected to "prescribe general waste discharge requirements for a category of discharges"[62]. Historically, the large number of non-point source discharges spread over a wide area makes it very time-consuming and expensive to assemble all of the documentation required by the state's Nonpoint Source Policy.[63] Offsets may offer the opportunity to focus and simplify the process so that some of the monitoring and reporting resources can be redirected to accelerate or expand water quality improvement projects.

Under what conditions should an Offset be considered?

1) When it is not feasible, practicable or reasonable for the discharge to comply directly with applicable WDRs. WDRs normally require "direct" demonstration of compliance either at the point-of-discharge or at the confluence with the receiving water. ~~Evaluating compliance at the confluence with receiving water allows the Central Valley Water Board to consider pollutant reductions that may occur as a result of system mixing or by the process of percolating through the ground to the aquifer.~~[64]

~~2) When it is not feasible, practicable or reasonable to prohibit a discharge that is unable to comply with applicable WDRs. This situation may also necessitate that the Central Valley Water Board approve a conditional exception where the offset is one of the conditions.~~

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[61] ~~California Water Code §13263(b)~~

[62] California Water Code §13263(i); examples: WDRs issued to the dairy industry or various agricultural coalitions.

[63] Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program. State Water Board Resolution No. 2004-0030, May 20, 2004.

[64] State Water Board Water Quality Order 81-5; In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region (see pg. 6).

~~(i)~~ Comment: this may qualify as a mitigation measure and condition of an exception, not an offset

3) ~~When there is no assimilative capacity available in the receiving water or as a condition for allocating any available assimilative capacity in order to authorize a discharge~~. ~~If receiving water quality exceeds water quality objectives~~ This situation may also require the Central Valley Water Board to approve a conditional exception~~, if the offset project is not proximate to the discharge. Board approval would be predicated on a finding of no harm to beneficial uses.~~.

- (i) Comment: this may qualify as a mitigation measure and condition of an exception, not an offset

~~2)~~4) When the net effect of authorizing the discharge, including the proposed offset project, would result in better water quality in the groundwater basin or sub-basin than is likely to occur if the discharge was required to comply with the applicable WDRs at the point-of-discharge.

~~3)~~5) When the net effect of authorizing the discharge, including the proposed offset project, would result in better water quality in the receiving water than would be expected to occur if the non-compliant discharge was prohibited altogether.

~~4)~~6) ~~When the proposed offset project will provide substantially greater and more immediate public health protection (e.g., real risk reduction) than is expected to result if the discharger was required to comply with the applicable WDRs at the point-of-discharge or the non-compliant discharge was prohibited completely.~~

~~5)~~7) ~~When the proposed offset project is an integral part of and facilitates a larger strategic plan designed to ultimately achieve attainment of water quality standards through a phased program of implementation that has been reviewed and approved by the Central Valley Water Board.~~

~~6)~~8) Other "factors" the Central Valley Water Board will consider when deciding whether to approve a proposed offset program/project include, but are not limited to: Relative location of the discharge and offset project and potential impacts on downgradient waters, reliability of the recharge, whether recharge-based offsets constitute genuine "new" groundwater recharge, impacts on the vadose zone over time, mixing assumptions, brine disposal, ~~and whether the offset is proposed as a temporary or long-term~~permanent ~~alternate compliance strategy~~.

What implementation requirements should apply to Offsets?

1) Offsets sh~~ould~~all be consistent with the local plan to manage salt and nitrate. And~~, in general, it is desirable to encourage~~ offsets must ~~need to~~ impact~~be in~~ the specific area ~~same receiving water groundwater basin or sub-basin~~ where the discharge occurs in the receiving water. Assessing the impacts of the offset to a management zone, basin or subbasin is not allowable. ~~However, the Offsets Policy is also intended to incentivize implementation of some large-scale projects such as a regional regulated brine line or a Mitigation Bank established to provide safe drinking water.~~

- a. comment : a mitigation bank to provide safe drinking water can be a mitigation and condition of an exception.

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Commented [4]: This may qualify as a mitigation project, but not an offset

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~~1)~~2) The offset must result in a net neutral or net improvement in current water quality (e.g., the offset ratio must be > 1:1) compared to baseline regulatory requirements. Offset ratios < 1:1 may be authorized only in accordance with the state's antidegradation policy unless an exception is granted or Time Schedule Order (TSO) allows a less stringent interim ratio to apply.

~~2) Offsets must be for substantially the same pollutant. Cross-pollutant trading (e.g., total dissolved solids (TDS) for nitrate, nitrate for arsenic, etc.) should not be construed as true "offsets." However, such "trading" may be permissible when there is assimilative capacity available for the pollutant being discharged and the discharger proposes to significantly reduce a different pollutant in the receiving water in a manner that provides "maximum benefit to the people of the state."~~

3) The proposed package (discharge + offset project) cannot result in unmitigated localized impairments (e.g., "hotspots") to sensitive areas (especially drinking water supply wells). ~~This situation can best be addressed by implementing offsets within Management Zones that provide other mechanisms to assure water users remain protected. Downgradient well owners must be notified and encouraged to participate in the offset approval process. Additional mitigation may be required.~~

4) Offsets must be approved by the Central Valley Water Board. The Board may elect to pre-approve specific offset projects (a 1-step process) or authorize the general use of offsets within a given order and then approve individual offset projects in subsequent Board actions (e.g., a 2-step procedure). All terms and conditions governing implementation of the proposed Offsets Policy must be enforceable through a WDR, Waiver or other enforcement order. Failure to comply with the terms and conditions of an offset approved by the Central Valley Water Board could constitute a violation of the underlying permit or enforcement order.

5) Offsets apply to a specific discharge for a defined period. Offsets can be renewed but must be periodically reviewed and reauthorized by the Central Valley Water Board. The length of that period and the maximum duration of the offset will be specified by the Central Valley Water Board when the offset is approved.

6) The terms and conditions governing an approved Offset should specify the remedial actions that must be undertaken by the discharger, and the metric(s) used to trigger such obligations, in the event that the offset project fails for some reason.

7) The offset project must include a monitoring and reporting program sufficient to verify that the pollution reduction credits are actually being generated as projected and that these credits are adequate to ~~meet~~ offset the discharge loads in the ratio approved by the Central Valley Water Board. Pollutant removal, reduction, neutralization, transformation and dilution may all be acceptable means of generating offset credits (subject to appropriate verification).

Commented [5]: This option would permit pollution and nuisance with no proscribed remedy.

Commented [6]: managment zone is too large; it needs to be in the same location as the discharge

Hypothetical Examples to Illustrate the Offset Concept[65]

[65] These examples are not being proposed as archetypes. They are offered solely to stimulate discussion regarding potential application of the Offsets Policy and identify the key issues and concerns related to using offsets.

Offset Example #1: *Equivalent Discharge Concentration*

Company X is seeking to discharge 10,000 gallons/day with an average TDS concentration of 1,200 mg/L to a groundwater basin with a TDS objective of 900 mg/L and a current average quality of 2,000 mg/L. Because there is no assimilative capacity available, the Central Valley Water Board intends to issue a WDR that restricts TDS concentrations in the discharge to no more than 900 mg/L. To meet this requirement, Company X would need to reduce the TDS in its discharge by 11.4 kg/day.

Company X proposes to construct and operate stormwater recharge basins in the area overlying the same groundwater basin. The new basins are expected to increase the total amount of precipitation that percolates to groundwater by 6 acre-foot/year (approximately 2 million gallons). The captured runoff has an estimated average TDS of 100 mg/L. The combined effect of the wastewater discharge and stormwater capture is 5.6 million gallons/year of recharge with a total volume-weighted average TDS concentration of 807 mg/L. The estimated offset ratio = 1.32:1 (Note: Long-term averaging required to implement this approach).

Comment: while this may be appropriate for salts, no offsets approved to offset nitrate loading may be applied across a management zone, basin or subbasin, rather all offsets designed to ensure compliance with the water quality objective for nitrate must ensure compliance with the water quality objective in the specific area in which the underlying discharge is permitted.

Offset Example #2: *Equivalent Mass Reduction*

Company X is seeking to discharge 10,000 gallons/day with an average TDS concentration of 1,200 mg/L to a groundwater basin with a TDS objective of 900 mg/L and a current average quality of 2,000 mg/L. Because there is no assimilative capacity available, the Central Valley Water Board intends to issue a WDR that restricts TDS concentrations in the discharge to no more than 900 mg/L. To meet this requirement, Company X would need to reduce the TDS in its discharge by 11.4 kg/day.

Company X proposes to construct and operate a desalter in the worst area of the same groundwater basin where the average TDS concentration is 4,000 mg/L. They will pump and treat 1,000 gallons/day for the benefit of a nearby community. The reverse osmosis treatment system will reduce the average TDS concentration in the product water to 200 mg/L (effectively removing 3,800 mg/L or about 14.4 kg/day). The estimated offset ratio = 1.25:1.

Comment: while this may be appropriate for salts, no offsets approved to offset nitrate loading may be applied across a management zone, basin or subbasin, rather all offsets designed to ensure compliance with the water quality objective for nitrate must ensure compliance with the water quality objective in the specific area in which the underlying discharge is permitted.

Offset Example #3: *Alternate Load Reduction - Eliminate Septic System*

A municipal discharger operates a wastewater treatment facility using a series of unlined ponds that overlie a groundwater basin with no assimilative capacity for nitrate-nitrogen. The average nitrate concentration in the discharge is 14 mg/L. As the city grows, the discharger plans to replace the present

treatment with an activated sludge system that will reduce the average nitrate concentration to < 10 mg/L. However, this upgrade is not scheduled to begin until 2024. In lieu of accelerating the construction plans to meet the current WDRs, the discharger proposes to expand the existing collection system to provide sewer services in an adjacent, upgradient community and to install additional aeration at the ponds to reduce the average Total Inorganic Nitrogen (TIN) concentration from 14 mg/L down to 13 mg/L. Mass balance calculations show that intercepting and treating sewage currently going to septic systems in that community and upgrading aerators will reduce the combined TIN load by 2% more than building the activated sludge system early. Expanding the collection system is estimated to cost less than one-third what it will cost to build the new wastewater treatment plant and will expand the utility's rate base by 10%. It will also result in the current pond system reaching capacity one year sooner than would occur under normal growth conditions. Therefore, the discharger also intends to begin the plant upgrade one year earlier than previously planned (i.e., 2023 instead of 2024). This project might also be implemented through a traditional compliance schedule or TSO.

Offset Example #4: Planning & Design Work for Large Regional Projects

A coalition of agricultural dischargers, operating under a common set of categorical WDRs, are discharging salts to the underlying groundwater basin where the average TDS concentration is 1,100 mg/L and no assimilative capacity exists. The agricultural operators are using the best available water supply (TDS = 175 mg/L) to irrigate their fields; but, with a 15% leaching fraction, the recharge quality averages approximately 1,050 mg/L. This is slightly better than the receiving water quality but slightly worse than the "Upper" end of the acceptable TDS range specified for the Secondary Maximum Contaminant Levels.[66] However, TDS concentrations in the drinking water wells throughout the area are generally less than 700 mg/L. In lieu of increasing the leaching fraction, the dischargers are proposing to fund the first phase of the proposed long-term salt mitigation strategy identified in SSALTs, i.e., construction of a regulated brine line. This effort would focus primarily on preliminary engineering analysis (e.g., siting priorities), initial CEQA review, and regulatory permitting. The dischargers also propose to support the outreach efforts needed to secure the federal and state grant funding needed to pay for the capital construction anticipated in some subsequent phase of the program. This "offset" might also be approved as a condition for authorizing an exception to WDRs. Renewals of this type of offset would be limited in time and scope.

Comment: while this may be acceptable for salts, this would not be appropriate for nitrates as the plan does nothing to improve water quality in the near term, leaving residents to continue to be impacted until later phases of a long-term plan.

~~**Offset Example #5: Alternate Water Supply**~~

~~An industrial discharger disposes of its wastewater by a land application system that irrigates silage crops grown in a 500 acre parcel. This parcel overlies a groundwater basin where the average nitrate concentration is 30 mg/L (no assimilative capacity). There is an economically-disadvantaged community immediately adjacent to and upgradient from the discharger's property. The community draws its drinking water from the same basin and the groundwater is contaminated by both nitrate and naturally-occurring arsenic. In lieu of reducing nitrate in the discharge, the discharger proposes to construct and~~

[66] California Water Code 22 §64449, Table 64449-B.

operate a well-head treatment system that will reduce nitrate and arsenic levels in the upgradient community's drinking water so that it easily complies with state and federal drinking water standards.

Comment: this may be a mitigation project and a condition of an exception; it may not qualify as an offset.

Offset Example #6: Nitrate Mitigation Bank

A Non-Governmental Organization (NGO) seeks and receives significant grant funding from the HP Foundation to develop an independent, non-profit corporation with a charter to construct and operate small drinking water supply systems for economically disadvantaged communities. However, the initial grant funding is sufficient to address only a small fraction of the total problem. The HP Foundation encourages the non-profit corporation to leverage the available resources by establishing a Nitrate Mitigation Bank. The NGO does so and the Central Valley Water Board formally recognizes the mitigation bank as an acceptable offset program (subject to continuing verification of nitrate credits by state authorities and independent auditors).

a. A coalition of dairy operators, governed by a common set of categorical WDRs, is discharging nitrate to groundwater at a number of widely separated locations. Some of these dairies are proximate to economically disadvantaged communities with wells impaired by excess nitrate and some are not. Rather than attempting to discern the relative priority and develop appropriate offset projects for each dairy facility, the dischargers propose to make regular payments to the Nitrate Mitigation Bank.

b. A separate crop coalition, governed by its own common set of categorical WDRs, is also dispersed over a wide area with varying proximity to economically disadvantaged communities with nitrate-impaired wells. The coalition proposes to establish and collect an annual fertilizer use fee from its own members and to remit the proceeds to the Nitrate Mitigation Bank as an Alternate Compliance Program. The dischargers request that the Central Valley Water Board deem remission of said fees as an acceptable offset under their WDR.

In both cases, the mitigation bank would be responsible for assessing needs and coordinating with the community water systems to select a cost-effective solution. Contributions from the dischargers would be used to meet "matching requirements," operation and maintenance costs, or other expenses not normally covered by state and federal grants.

Comment: this may be a mitigation project and a condition of an exception; it may not qualify as an offset.

Offset Example #7: Alternate Load Reduction - Fallow Cropland

A small municipality relies on a pond system to treat its wastewater. Recharge water from the ponds presently has an average nitrate concentration of 15 mg/L. Small, low cost operational improvements are expected to reduce their nitrate concentration to about 13 mg/L. Meeting a WDR of 10 mg/L would require the city to construct and operate a modern activated sludge process that would cost several tens of millions of dollars. To offset the remaining nitrate the city proposes to purchase, annex, and retire 1,000 acres of active farmland on its border. The land will be re-zoned for multi-use purposes and will have ordinances and/or covenants severely restricting the use of nitrogen-based fertilizers in this area.

~~Mass balance analysis confirms that the load reduction which results by fallowing the farmland is functionally equivalent to that which would be achieved by building a new wastewater treatment plant. However, the offset approach would cost 30% less and, eventually, the acquisition expense would be recovered when the land was re-sold for development. The ordinances and covenants would remain in place in perpetuity. Some sort of formal load allocation process may be needed to implement this type of offset project.~~